

Claims

Claims 1-21 (**canceled**)

22. (**new**) A method for the fractionation of polyoxyalkylene polymers, comprising:

a) dissolving up to about 10% by weight of polyoxyalkylene polymer in water to form a solution of a known concentration of polyoxyalkylene polymer;

b) adjusting the temperature of the solution from step a) to a preselected temperature of between about -5 °C and 30 °C;

c) adding about 5% to about 25% by weight of a salt to the solution of step b) to provide a known concentration of salt in the solution; and

d) allowing the aqueous solution to form a high salt phase and a low salt phase at the preselected temperature;

wherein the concentration of the polyoxyalkylene polymer, the concentration of the salt, and the preselected temperature are chosen so that the lower molecular weight polyoxyalkylene polymer molecules partition into the high salt concentration phase and the higher molecular weight polyoxyalkylene polymer molecules partition into the low salt concentration phase of the aqueous solution.

23. (**new**) The method of claim 22, wherein the salt is a sulfate, citrate, or phosphate.

24. (**new**) The method of claim 22, wherein the salt is a sulfate.

24. (**new**) The method of claim 22, wherein the salt is a citrate.

25. (**new**) The method of claim 22, wherein the salt is a phosphate.

26. (**new**) The method of claim 22, wherein the salt is ammonium sulfate or sodium sulfate.

27. (**new**) The method of claim 22, wherein the salt is ammonium sulfate.

28. (**new**) The method of claim 22, wherein the salt is sodium sulfate.

29. (**new**) The method of any of claims 22-28, wherein the polyoxyalkylene polymer has an average molecular weight of about 3,000 daltons to about 100,000 daltons.

30. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is selected from the group consisting of poly(alkylene glycol), poly(alkylene oxide), and polyoxyalkylene block copolymers.
31. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is a polyoxyalkylene block copolymer.
32. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is selected from the group consisting of poly(ethylene glycol), poly(ethylene oxide), poloxamers, and poloxamines.
33. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is selected from the group consisting of poly(ethylene glycol), poloxamers, and poloxamines.
34. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is poly(ethylene glycol).
35. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is a poloxamer.
36. **(new)** The method of any of claims 22-28, wherein the polyoxyalkylene polymer is a poloxamine.